School Shop

vol. VIII no. 10
JUNE, 1949

The Shop Teacher and Driver Training
by Amos E. Neyhart

Audible Timer for Darkroom Use
by Clarence A. June

Sensitive Drill Press
by Alexander R. Smoyer

A Nautical Lamp for Young Salts
by William D. Chatfield

On the cover: Preroad driver training in dummy cars at the Highland Park, Michigan, High School. Projected traffic scenes are used to develop proper responses. See page 5 for a discussion of driver training by shop teachers.

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School Shop

FOR INDUSTRIAL EDUCATION TEACHERS

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School Shop TALK

COMMENTS ON ISSUES FACING INDUSTRIAL EDUCATION

One by One

Gradually the states are recognizing the necessity for offering services to industrial-arts teachers by appointing state consultants for, or supervisors of, industrial arts whose job it is to give assistance where needed in local school systems.

California is the latest state to recognize this need and has appointed a full-time man to the job.

Many another state is discussing the idea and several are expected to appoint state consultants in the not too distant future.

A problem in many states that can be worked on with success where there is a state consultant is that of reopening school shops that were closed during the war emergency and have not since reopened. No one knows just how many schools are in this category but the estimates run high.

A large number of school shops were discontinued when the teachers went off to war and were not reopened immediately after the war because of the teacher shortage. In many cases the rooms that were formerly shops are now classrooms to take care of bulging school enrolments and the administrators of these schools have not taken the lead in seeking reestablishment of the industrial-arts program.

Now that teachers are not quite as difficult to secure and industrial arts is becoming an increasingly important part of the school curriculum, many of these school shops could be reopened with a little prodding from state sources. Here is one of many areas where the state industrial-arts consultant can do a real service.

Congratulations to California on its forward-looking step and we hope that before long the other states without this important position will add it to their services.

Build a House

Housing is the outstanding need of the nation today. Teachers of industrial education can perform a real public service for both students and community and, incidentally, earn the public's goodwill by constructing residential dwellings as shop projects.

This is not a new idea, of course, and has been done in a few communities for many years. The need has never been more pressing than now, however, and the number of schools that are carrying on house-building programs has increased recently.

The real value in building a house is in the experience it gives students working on it. Whether they ultimately go into the building trades or not, they will derive immeasurable benefit from learning what is involved in house construction.

Arrangements with local contractors and labor unions are important, of course, in such a program. Seldom is there any difficulty on this score if interested community groups are consulted before and during the construction and if the educational significance of the project is carefully explained.

Home building offers a real opportunity for the progressive teacher.

A Lack of Snobbery

Recently we were reading a book, we shyly admit, called *Education in a Divided World*, by James Bryant Conant, president of Harvard University. The subject is broad and so were his brush strokes as he pictured what and how schools should teach.

One of his statements caught our eye. He said,

> . . . the present emphasis in many public schools on "democratic living" is of the first importance. I should place high in the priority list of goals to be achieved by every teacher the inculcation of what we Americans call a "democratic attitude," a lack of snobbery.

The reason this praiseworthy statement gave us pause was that we had seen too many instances lately of lack of this noble virtue in our own profession. The vocational man lording it over the industrial-arts man, the big industrial-arts man giving the treatment to the little industrial-arts man.

Isolated though these cases were, they don't help in developing the democratic processes so essential to the upgrading of the industrial-education field. We accuse the so-called academic people of giving us the "cold shoulder." We should avoid the same thing among ourselves.

Your Editor

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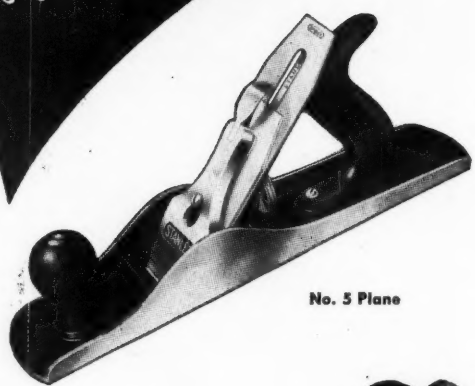

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What the Shop Teacher Can Do About Driver Training

By Amos E. Neyhart

Part of the war against the tragic toll of traffic accidents is being waged through the driver-training program in the schools. Here is an outline of how the industrial-education specialist can take part by the outstanding leader in the field who is a former industrial educator. Amos E. Neyhart is Administrative Head of the Institute of Public Safety, The Pennsylvania State College, and Consultant on Road Training, American Automobile Association, Washington, D. C.

BECAUSE they have the know-how to develop student skills and attitudes of good craftsmanship and quality performance, so important to the safe, efficient operation of a motor vehicle, industrial-education teachers in increasing numbers are finding high-school driver education and training a satisfying field for personal achievement, and one in which they can make a lasting contribution to better youth preparation for living.

Interest of IE teachers in this subject is not new; among the pioneers and today's leaders are many with an IE background. But recently, as the number of high schools offering driver education and training has skyrocketed, additional IE men by the hundreds have become convinced of new opportunities in a fast-developing field and are preparing themselves for a career in it.

While my own background has been essentially that of industrial engineering and industrial education at The Pennsylvania State College, I must hasten to point out that ever since 1933, when I taught the first high-school class in driver education and training at State College High School, I have emphasized the following:

1. Driver education and training should be made available to *all* students.
2. The teacher must be carefully selected, interested in traffic efficiency and safety, possessed of above-average driving skill and teaching ability, and trained in content and methods.
3. The department which can assure the above should be selected.

Thus, during the past 13 years of my affiliation with the American Automobile Association in its national program, I have aided teachers of physical education, of mathematics, of social studies, of science, of English, of French, and of home economics, as well as athletic coaches, to take special instruction to prepare themselves for this subject. I have watched them go on to outstanding personal success in this field.

My many friends in industrial education point out with good logic that, for men with this background, driver education and training is a "natural."

Shop Teachers Have Head Start

IE teachers of competence already have many, if not all, of the attributes necessary to do a good driver-training job. It comes easier to them; they are accustomed to teaching by the laboratory method and are experienced in the technics of individual instruction. They know how to develop skill through a step-by-step procedure, requiring mastery of each step before going on to the next. This is the procedure that has worked so well in teaching driving. There is such a close parallel between the methods used in teaching shop subjects and driver education and training that IE men have a head start, as it were.

All through the driver-training program, the instructor seeks to create an attitude of sportsmanship, and a desire on the part of the student to be an expert driver, not a slip-shod "dub." In industrial education, too, the teacher works to develop a spirit of pride in doing a top-quality job, in making a first-class article, in being a master craftsman.

IE men are very "close" to their students, who regard them as a more informal type of teacher. Students like and respect such teachers because of this very informality and the classroom atmosphere of making or doing things together. The shop teacher is usually more even-tempered; he is able, also, to develop a better idea of individual differences among students, enabling him to individualize instruction. He can see the immediate results of his teaching and can change or modify his methods and technics.

For example, classroom discussion is on "how to park." Out in the driver-training car, cues for each step are explained and parking is practiced by each student in turn. Errors are corrected immediately; the right way is learned. There is no lapse of time until a test or the finals are given to see whether the student "got" it or not!

While I am not advocating that IE teachers all make a bold rush to get into this growing field of preparing boys and girls for a life behind the wheel, it must be clear to far-sighted educators that only the surface has been scratched in providing the facilities necessary to do the job that we must do.

A field of vision test being given by the author. It is one of a battery of tests utilized in the driver-training program. Many school shops have constructed testing devices like this from blueprints available from the AAA.

Few Schools Give Recommended Course

Now, only about one-tenth of America's 26,000 high schools are offering as a separate subject, many for credit, the two-part course in driver education and training recommended by the AAA. This two-part course is composed of classroom teaching and supervised road practice. Through the cooperation of leading automobile manufacturers and dealers, some 2500 to 3000 high schools have been loaned dual-control cars for the road-training phase, and additional cars are ready for assignment to schools which meet simple requirements. Some 5000 to 7000 other high schools offer classroom instruction in traffic safety and driving, without road practice.

IE teachers will be quick to agree, I am certain, that an important skill cannot be taught from a textbook alone. The quality of learning is a product of the quality of practice. To learn to swim, to operate a lathe, a planer, a printing press, or to drive a car well, requires properly guided practice. This type of teaching promises the highest quality learning, and that which is most economical of effort, most lasting, and therefore, most efficient.

IE teachers know that students learn by doing; and that acquiring skill and an attitude of sportsmanship and regard for other highway users is well-nigh impossible other than in a life-like environment—behind the wheel of a "live" car. . When a student makes a mistake on a lathe or planer or press and spoils some material, the loss is usually a minor one. The teacher demonstrates again (!) and the student does it over. But, when a driver makes a single mistake at the wheel of a motor vehicle, it may mean death or disaster.

America's drivers have made so many mistakes in the past fifteen years that nearly half a million people have been killed on our streets and highways and over ten million have been injured. This horrible record is mainly due to the fact that so many drivers formed their driving habits through hit-or-miss methods and trial-and-error learning.

"Dubs" Cause Accidents

IE teachers know that most beginners, left to themselves, almost always follow the trial-and-error procedure. They try this or that and, in the case of driving, most likely turn out to be "dubs"—the people to whom we can trace, in large part, the unnecessarily high volume of traffic accidents.

My preachments over the past 16 years to educators, to public officials, to parents, and to taxpayers who hold the purse-strings on school appropriations have emphasized that we, as a nation, cannot permit this serious traffic accident toll to continue. Society is at last awakening to the fact that driving an automobile requires special attitudes and skills that should be learned in school classes under expert guidance.

We, in public education, are proud of our acceptance of responsibilities. Is not public education designed to equip young people for the activities and responsibilities they are almost certain to assume in their daily lives? Most young people are certain to drive cars and trucks on public streets and highways. This means that the general public will be endangered by their mistakes if beginning drivers are not trained well. Society therefore must not neglect to supply and support the best training possible.

Many IE teachers have had personal experience with the bad driving record of youth. You have undoubtedly heard of the AAA study revealing that drivers 16-19 years of age had a traffic fatality record five times as bad as drivers 45-50 years of age. School and community tragedies bringing death or injury to promising students have a saddening impact on the faculty. Could it have been prevented by better education? The sure knowledge of traffic dangers, the observance of certain rules until they become habits, the doing of a series of precise acts until they become an integrated skill—these are the personal aptitudes needed for survival in this Power Age; these are the lessons our secondary schools can and should present; and this is a field in which IE men can make an important contribution.

What Shop Teachers Can Do

How can IE teachers or students prepare themselves to be effective in conducting high-school driver education and training?

The hundreds of their fellows who are now teaching it will attest to the fact that they acquired a good foundation by participating in one of the 40-hour intensive courses conducted by AAA Educational Consultants at the invitation of school authorities, or by attending a summer session or regular course at a teacher-training institution. Some 6000 teachers have participated in more than 100 in-service courses presented by AAA specialists in practically every state since 1936. A score or more of similar courses are scheduled for 1949.

In these institutes, the teacher-trainee becomes familiar with special teaching methods and technics; he acquires a substantial body of background information and samples of available texts, teacher's manuals, tests, and other teaching aids. He learns correct procedures for maneuvering a car and has his own driving practices checked carefully and corrected wherever necessary.

He is strongly indoctrinated with the realization that his own attitudes toward traffic safety and driving are tremendously important in the youth-teaching work he intends to do. Of the 40 hours spent in the course, 12 hours are devoted to information and technics, and practice, on the step-by-step, behind-the-wheel instruction of students.

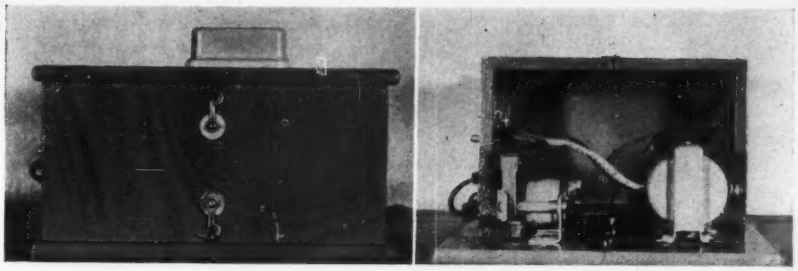
The teacher-trainee learns in detail of methods and devices for testing an individual's physical characteristics such as visual acuity, ability to withstand glaring lights, distance judgment, and reaction time. He tests others in the group and is tested himself.

He notes that he can build these devices in the school shop utilizing available blueprints, or that he can borrow or purchase the devices.

Research studies in Cleveland, Ohio; Bradford and State College, Pa.; Wisconsin; and Delaware indicate that high-school trained drivers have a much better record than untrained drivers, both in fewer chargeable accidents and in fewer convictions for traffic violations. Several studies showed trained drivers to be twice as good as their untrained schoolmates.

IE teachers now are making a splendid contribution to this field; in every teacher-training course it is my opportunity, or that of my associates to present, additional IE teachers are enrolled. I must stress one caution regarding IE men getting into this field. Most of us like to concentrate on the things with which we are familiar. Since IE teachers generally are so familiar with the mechanics of the car, they tend to overemphasize this aspect of the course.

We have but made a good start in an educational field of untold possibilities for our Power Age. Important, lifelong habits of skilful driving can be developed in teen-agers through proper driver training in high school. Such training, if widespread, can ultimately have a tremendous effect on improving the safety and efficiency of all motor vehicle use. Think of the impact of a million and a half well-trained, careful, sportsmanlike drivers from our high schools annually! I urge teachers and administrators whose schools do not offer this youth-saving course to investigate it immediately. Call on me for further information or help!



Exterior and interior views of the audible timer. Note the buzzer mounted atop wooden box which protects timing mechanism. In the interior view, motor is on left, micro switch in center, and transformer on right of photo. Tip of toggle line switch may be seen at left in both photos, outside of box.

An Audible Timer for Darkroom Use

By Clarence A. June

Here is a project which will lighten the burden of the darkroom operator by making it simple for him to count the minutes when developing film. The work can be used to correlate machine-, woodworking-, and electrical-shop practice. Clarence A. June teaches at the J. M. Wright Technical School, Stamford, Connecticut.

WHEN one is processing fast panchromatic film by the tray method, absolute darkness is essential. Therefore, some form of timer that will give an audible signal must be employed. Automatic timers that may be set for the desired number of minutes may be purchased, but are rather expensive.

The timer described in this article gives a signal of about three seconds duration every minute. As it takes only seven to nine minutes to develop the film, it is not difficult for the operator to count and keep track of the required number of minutes.

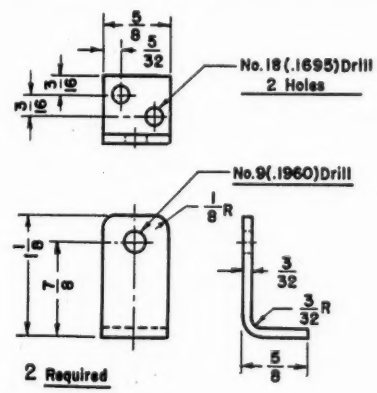
With the exception of three parts described below, the pieces that make up the timer must be purchased. These are a 1 RPM Telechron model type B3 motor, a micro switch—regular normally open pin type, a bell transformer, a buzzer, and a toggle line switch.

The motor is mounted on the brackets (part No. 1) which in turn are mounted on the base with #8 round-head wood screws. The arm (part No. 2), which actuates the micro switch is secured to the motor shaft with a set screw. The micro switch is then positioned on the base so as to be depressed when the arm makes contact with the pin during its revolution. The transformer is mounted on the base and the line switch on the side of the case. The buzzer is placed outside on the top of the case. Wire according to the wiring diagram.

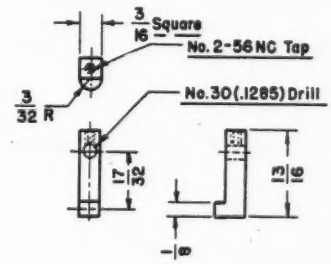
The overall size of the wooden case is 8½" long, 5" wide, and 4¼" high and is made from ¼" thick stock. Both the top and bottom of the case are hinged for easy access.

The work on this project may be correlated with the machine, woodworking, and electrical shops of the school.

To operate timer, start motor by throwing line switch and, at the audible signal, place films in the developer. Count the number of minutes desired and then remove films for rinsing and fixing. The timer should also be employed during the fixing operation.



Part No. 1



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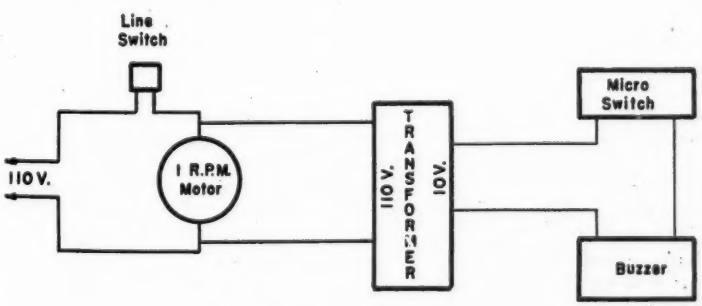


Wiring Diagram

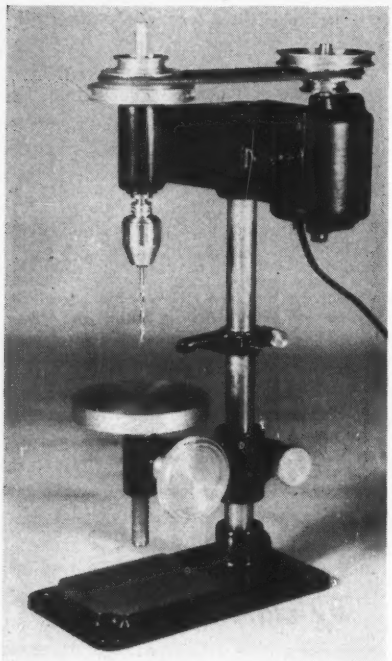
Strictly Personal
ABOUT YOUR FELLOW TEACHERS

RALL I. GRIGSBY, former Acting U. S. Commissioner of Education, has been named Deputy Commissioner . . . OLEN D. DAVIS has been named consultant for industrial arts in the California state department of public instruction . . . MARSHALL L. SCHMITT has been appointed associate professor of industrial arts at North Carolina State College of Agriculture and Engineering, Raleigh . . . HOBART H. SOMMERS has been named assistant superintendent in charge of vocational education in the Chicago, Ill., schools . . . GEORGE H. BALDWIN, Rhode Island state director of vocational education, died recently.

Sensitive Drill Press Stimulates Interest

By Alexander R. Smoyer

This project provides good experience in foundry work and machining. Alexander R. Smoyer is a member of the faculty of the State Teachers College, California, Pennsylvania.



The finished drill press with motor, brackets, and base enameled black. Castings are aluminum.

TESTED 55 PROJECT

WITH the increasing popularity of plastics and costume jewelry courses in many schools, the demand for a small sensitive tool to produce minute holes has arisen. The high-speed sensitive drill press pictured in this article has proved to be a worthy tool for the purpose.

It is pulley driven by a $\frac{1}{4}$" diameter belt and is powered by a 1/12 horsepower universal (ac-dc) motor at 110 volts. It is used for drilling holes $\frac{3}{16}$" in diameter and under in plastics and nonferrous metals and also for buffing and polishing small parts.

The drill press has created great interest as a project of utility for advanced machine-shop courses. Here at California each student in advanced machine shop casts and machines his own drill press.

The construction of the sensitive drill press involves foundry work in aluminum and a wide range of machine operations on the lathe, shaper, drill press, and milling machine. It provides practical items to be made as introductory work in gear generation. Special emphasis should be placed on the necessity of maintaining accuracy in the production of threads, shoulders, concentric diameters, center-to-center distances, and parallel reamed holes.

The wood patterns displayed may be constructed using simple woodworking tools. The guard, bracket, and table support consist of two-piece patterns.

Wood patterns used in making the castings. All castings are one piece except for the guard, bracket, and table support which are two piece. Only simple tools are required for making them.

BILL OF MATERIALS

No.	Part Name	Quantity	Material	Remarks
1	Base	1	Aluminum	Casting—Alcoa #212
2	Table Support	1	Aluminum	Casting—Alcoa #212
3	Spindle Bracket	1	Aluminum	Casting—Alcoa #212
4	Column	1	S.A.E. 1020	Stock—1" Dia. x 14-1/16" long
5	Table	1	Aluminum	Casting—Alcoa #212
6	Table Rack	1	S.A.E. 1020	Stock—¾" Dia. x 4-1/16" long
7	Table Pinion	1	S.A.E. 1020	Stock—¾" Dia. x 3½" long
8	Pinion Knob	1	Aluminum	Casting—Alcoa #212
9	Table Clamping Screw	1	S.A.E. 1020	Stock—5/16" Dia. x 1-9/16" long
10	Table Clamping Knob	1	Aluminum	Casting—Alcoa #212
11	Binding Screw	2	S.A.E. 1020	Use Scrap Stock Over 9/16" Dia.
12	Spindle	1	S.A.E. 1020	Stock—⅝" Dia. x 5-13/16" long
13	Pulley	2	Aluminum	Casting—Alcoa #212
14	Motor Support	1	Aluminum	Casting—Alcoa #212
15	Adjusting Pin	2	S.A.E. 1020	Stock—5/16" Dia. x 1-5/16" long
16	Table Stop	1	Aluminum	Casting—Alcoa #212
17	Bearings	2	Steel	#702 Nice Bearings
18	Spindle Chuck	1	Steel	For ⅜" Spindle—24 threads
19	Pulley Guard	1	Aluminum	Casting—Alcoa #212
20	Pinion Washer	1	Aluminum	Use Scrap Stock Over 1" Dia.
21	#10 Round Head Machine Screw	4	Brass	#10—24 NC—½" long
22	5/16" Allen Set Screw	1	Steel	5/16"—18 NC—½" long
23	⅜" Hexagonal Socket Cap Screw	1	Steel	⅜"—16 NC—7/16" long
24	#10 Allen Set Screw	6	Steel	#10—24 NC—5/16" long
25	#0 Taper Pin	1	Steel	#0—1" long
26	#00000 Taper Pin	1	Steel	#00000—¾" long

The guard and bracket are cored. All other castings are produced from single-piece patterns.

The exploded view of the drill press may also aid in revitalizing drafting-room exercises through "drawings with a purpose" to be executed in multi-view projection as detail drawings for the shop.

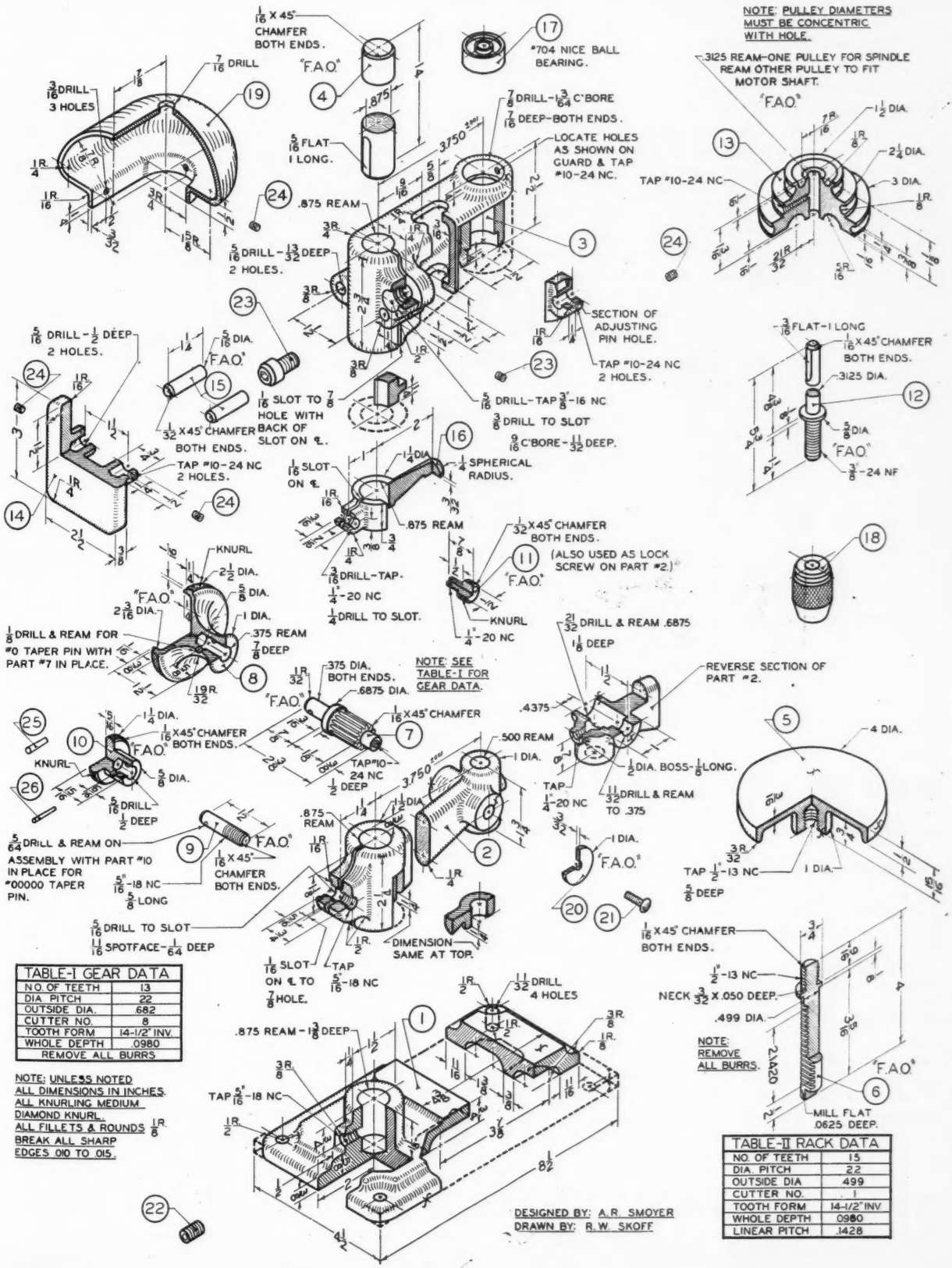

NOTE: PULLEY DIAMETERS MUST BE CONCENTRIC WITH HOLE.
.3125 REAM—ONE PULLEY FOR SPINDLE REAM OTHER PULLEY TO FIT MOTOR SHAFT.
F.A.O.
1/16 X 45° CHAMFER BOTH ENDS.
7/16 DRILL
3/16 DRILL 3 HOLES
5/16 FLAT 1 LONG.
.875 REAM
5/16 DRILL—13/32 DEEP 2 HOLES.
7/8 DRILL—1 3/64 C'BORE 7/16 DEEP—BOTH ENDS.
LOCATE HOLES AS SHOWN ON GUARD & TAP #10-24 NC.
#704 NICE BALL BEARING.
SECTION OF ADJUSTING PIN HOLE.
TAP #10-24 NC 2 HOLES.
5/16 DRILL—TAP 3/8—16 NC
3/8 DRILL TO SLOT
9/16 C'BORE—11/32 DEEP.
5/16 DRILL—1/2 DEEP 2 HOLES.
1/16 SLOT TO 7/8 HOLE WITH BACK OF SLOT ON ℄.
1/32 X 45° CHAMFER BOTH ENDS.
TAP #10-24 NC 2 HOLES.
1/16 SLOT ON ℄
1/4 DIA.
1/4 SPHERICAL RADIUS.
.875 REAM
3/16 DRILL—TAP. 1/4"-20 NC
1/4 DRILL TO SLOT.
1/32 X 45° CHAMFER BOTH ENDS.
(ALSO USED AS LOCK SCREW ON PART #2.)
KNURL
1/4"-20 NC
3/16 FLAT—1 LONG
1/16 X 45° CHAMFER BOTH ENDS.
.3125 DIA.
5/8 DIA.
3/8-24 NF
KNURL
2 1/2 DIA.
2 3/16 DIA.
5/8 DIA.
1 DIA.
.375 REAM 7/8 DEEP
1/8 DRILL & REAM FOR #0 TAPER PIN WITH PART #7 IN PLACE.
.375 DIA. BOTH ENDS.
.6875 DIA.
1/16 X 45° CHAMFER
TAP #10—24 NC 1/2 DEEP
NOTE: SEE TABLE-I FOR GEAR DATA.
21/32 DRILL & REAM .6875 1/8 DEEP
REVERSE SECTION OF PART #2.
.4375
.500 REAM
1 DIA.
1/2 DIA. BOSS—1/8 LONG.
TAP 1/4"-20 NC
11/32 DRILL & REAM TO .375
3/32
1 DIA.
4 DIA.
TAP 1/2"-13 NC
1 DIA.
5/8 DEEP
1/4 DIA.
1/16 X 45° CHAMFER BOTH ENDS.
KNURL
5/8 DIA.
5/16 DRILL 1/2 DEEP
5/64 DRILL & REAM ON ASSEMBLY WITH PART #10 IN PLACE FOR #00000 TAPER PIN.
5/16"-18 NC 5/8 LONG
1/16 X 45° CHAMFER BOTH ENDS.
.875 REAM
1 1/4 DIA.
3.750
5/16 DRILL TO SLOT
11/16 SPOTFACE—1/64 DEEP
1/16 SLOT ON ℄ TO 7/8 HOLE.
TAP 5/16"-18 NC
DIMENSION SAME AT TOP.
1/16 X 45° CHAMFER BOTH ENDS.
1/2"-13 NC
NECK 3/32 X .050 DEEP.
.499 DIA.
NOTE: REMOVE ALL BURRS.
MILL FLAT .0625 DEEP.
11/32 DRILL 4 HOLES
.875 REAM—1 3/8 DEEP
TAP 5/16"-18 NC
8 1/2
4 1/2
DESIGNED BY: A. R. SMOYER
DRAWN BY: R. W. SKOFF

TABLE-I GEAR DATA	
NO. OF TEETH	13
DIA. PITCH	22
OUTSIDE DIA.	.682
CUTTER NO.	8
TOOTH FORM	14-1/2° INV.
WHOLE DEPTH	.0980
REMOVE ALL BURRS	

NOTE: UNLESS NOTED ALL DIMENSIONS IN INCHES. ALL KNURLING MEDIUM DIAMOND KNURL. ALL FILLETS & ROUNDS 1/8 R. BREAK ALL SHARP EDGES .010 TO .015.

TABLE-II RACK DATA	
NO. OF TEETH	15
DIA. PITCH	22
OUTSIDE DIA	.499
CUTTER NO.	1
TOOTH FORM	14-1/2° INV.
WHOLE DEPTH	.0980
LINEAR PITCH	.1428

School Shop KINKS

Payment will be made for each Kink published. Send to Editor, School Shop, Ann Arbor, Mich.

Brushes from Brooms

In our shop we solve the brush problem by making use of all discarded brooms from the custodial staff. We use them, first, as brooms on the woodblock floor, where they work very well. When they wear down or break, we cut about 8" from the ends, fasten on a wire ring, and use them for bench brushes. We gather the bristles left over from this cutting and use them to make small glue brushes, forming the handle from a piece of tin can. This piece should be about 1" x 4", folded lengthwise.—*David Humphreys, Danvers, Mass., School Department.*

"Numbered" Students

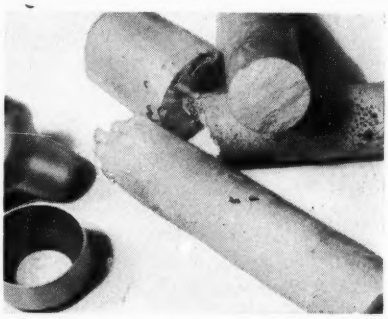
Abbott and Costello with their "Whose on first," "Watts on second," etc., routine are no more confusing than a bunch of elementary kids, each one of whom believes that he is next in line at shop stations for staining or painting. It is a real problem for the teacher to decide who really is next in such situations. I have discovered that the solution to this lies in simply numbering the projects as they come to me for final inspection before finishing. Pencil a number in red on an inconspicuous part of each project in the order in which they are approved. This will serve to keep peace in the shop family.—*Floyd A. Smith, North Side School, E. Williston, L. I., N. Y.*

Splinters

Have you ever had one of those minute, bothersome wood splinters or metal slivers that defies removal from your hand? They are usually too hair-like to see. Here is one method for locating them. First, wash and soak the affected area with water that is as hot as you can bear. Then paint the part with tincture of iodine. After the iodine has dried, wash the area with soap and water again. The splinter or needle will now stand out from the surrounding area sufficiently so that you can pick it out with a sterilized needle.—*E. Rahmsdorf, Herman Ridder Junior High School, New York City.*

Aluminum Turning Blanks

Occasionally an oversize slug of aluminum may be required for lathe turning or for some other purpose. It is not difficult to cast these from aluminum scrap taken from old auto parts, pots and pans, etc. The scrap may be melted down on an ordinary plate with the aid of a blowtorch. A tin can of the required size will serve as a mold and the resultant castings are surprisingly clear after the exterior surface is turned off. The aluminum slugs shown were melted



down over a gas plate and poured into tin-can molds. The object in the lower left corner is a lens shade for a camera, turned from one of the blanks.—*M. C. Anderson, Globe, Ariz., Vocational School.*

Wanted—Teaching Kinks

SHOP teachers are urged to send in brief descriptions of kinks and short cuts which they have found helpful in their shop. Send to the Editor, SCHOOL SHOP, Ann Arbor, Michigan. Payment will be made for each kink published.

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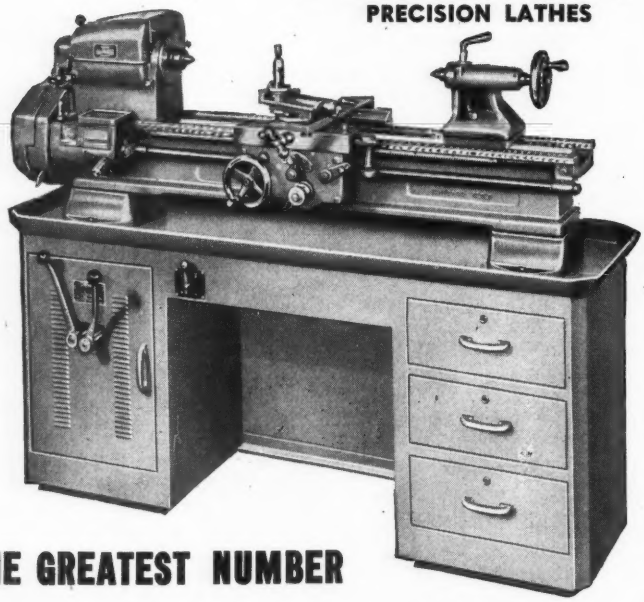

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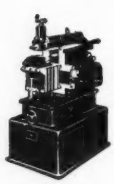

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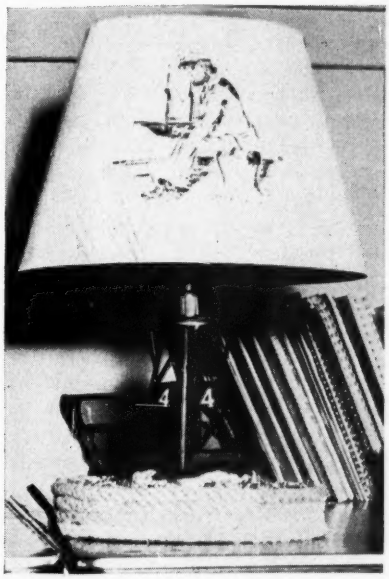
Nautical Lamp for Young "Salts"



The finished lamp. Note the wave effect in the concrete base.

By William D. Chatfield

The creation of this unique nautical lamp can be the solution to the problem of providing the superior student with challenging project material. William D. Chatfield is Assistant Professor of Industrial-Arts Education, Teachers College of Connecticut, New Britain.

TESTED INSTRUCTIONAL PROJECT

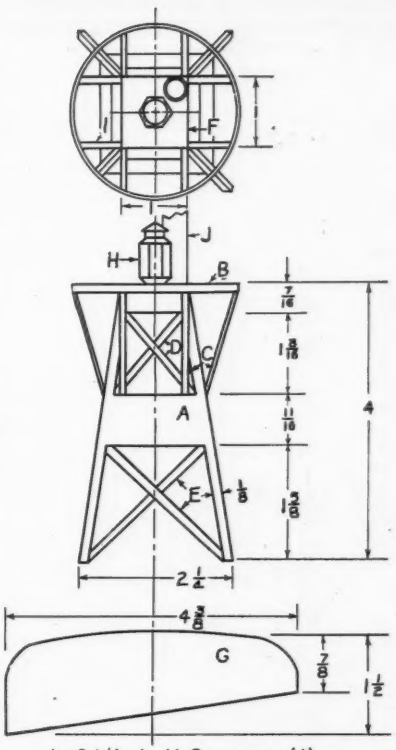
SHOP teachers are perpetually faced with the problem of finding a challenging project involving several operations. The problem can be solved with the nautical lamp pictured on this page. The student gets an opportunity to work with wood, metal, electricity, concrete, parchment, and rope.

Construction of the superstructure, which should be 16-gage metal—copper, brass, or other solderable material—involves layout, cutting with tin snips and jeweler's saw, filing, soldering, and thread cutting on the tube for the plumbing. The threaded copper tubing is soldered into a corner of a 1" square piece (see drawing). Onto each of the four legs solder a 1" #832 machine screw. This is to provide a means for fastening the superstructure to the buoy.

The buoy, which is of wood, can be cut to size and turned on a lathe. The four machine screws previously fastened to the superstructure will determine where the holes must be drilled in the buoy.

When concrete is poured for the base, the wooden buoy will be secured in position during the hardening process. Form the top of the concrete to represent waves prior to curing. Be sure to allow room for electric wiring.

Around the base form and glue some ¼" three- or four-strand hemp with a long splice. The long splice should be made with rope pieces of the same size and lay. To begin the splice, at least six times the circumference of the rope should be unlaid. That is, for ¼" hemp unlay at least 1½". Crotch the strands, hold them in close contact, and carefully lay back a strand from the crotch. As one strand unlays, lay in another strand from the second piece of hemp. When you get to a point where enough end remains, hitch the two from right to left —taking a slight turn so that they will get into the score between the other two strands. Return to the crotch and unlay a strand in the other direction. When a hitch has been made at the same distance as in the first instance, return to the crotch again and hitch the two remaining strands. Cut off the long ends of the strands you have laid back, leaving only enough to make the hitch. The drawing will explain itself once you have made a splice. Remember not to unlay more than one strand at a time and to follow that with the filling strand. Shellacking the hemp will aid in cleaning and preserving.

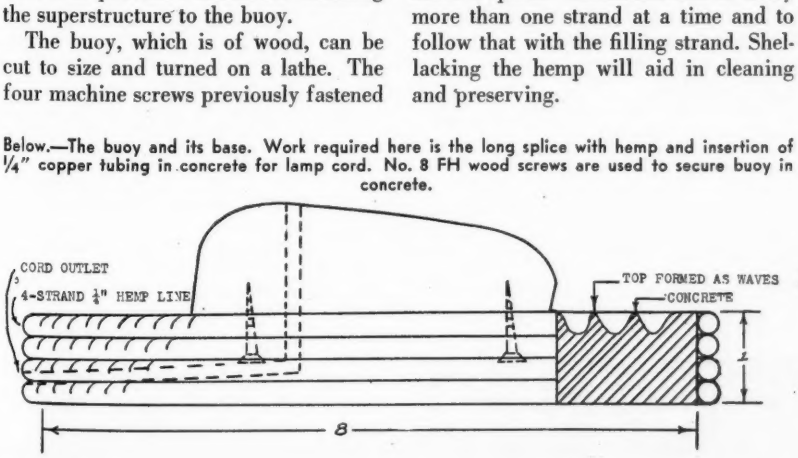


A—2-1/4 x 4—16 Ga. copper (4)
B—8 x 1/8—16 Ga. copper (1)
C—1-7/8 x 3/32—16 Ga. copper (8)
D—1-13 16 x 1 8—16 Ga. copper (8)
E—2-1/8 x 1/8—16 Ga. copper (8)
F—1 x 1—16 Ga. copper (1)
G—4-1/2 x 4-1/2 x 2-1/8 pine (1)
H—Miniature lamp
I—2-3/4 x 1/8—16 Ga. copper (4)
J—1/8 copper pipe (1)

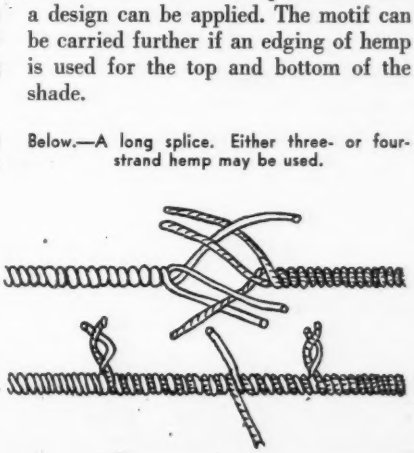
Finish for this lamp project is optional. A suggested procedure would be to use copper color above the concrete. Paint the concrete an ocean blue, making the caps white. On each side of the superstructure a number may be painted to heighten the appearance of reality.

An old shade frame of appropriate size can be covered with parchment and a design can be applied. The motif can be carried further if an edging of hemp is used for the top and bottom of the shade.

Below.—The buoy and its base. Work required here is the long splice with hemp and insertion of ¼" copper tubing in concrete for lamp cord. No. 8 FH wood screws are used to secure buoy in concrete.



Below.—A long splice. Either three- or four-strand hemp may be used.



Teaching Tools

POINTERS ON INSTRUCTION and SHOP ADMINISTRATION

By John F. Nowak

Solving the Desk Problem

EVERY school shop is provided with a desk and a chair for use of the teacher. Sometime in the dim past, supervisors and administrators became convinced that a shop teacher was not "teaching" while seated at his desk if a shop session was in progress. Likewise, they reasoned that a teacher who was seated at desk was out of view of whatever was going on in his shop.

Whatever the origin of their judgment, the belief today is that it is not good practice for a shop teacher to be observed teaching from a seated position. It is also felt that he should not be seen doing paper work while the shop class is in session unless he has been relieved by another teacher.

The ingenuity of shop teachers is justly famed. It was not long until someone of them came up with a solution which would permit a teacher to teach, to write, and to observe his class —all without sitting down. The solution took the form of a writing stand.

To construct a functional writing stand you should first obtain a standard drawing board and fasten it securely on a single upright (a 2" x 4" will suffice) in such a manner as to give the board a slight pitch with one long side about 10° above the horizontal as viewed in section along its short side and the other long side about the same distance below the horizontal. Brace well underneath (where drawing board and upright meet) with strap iron or wood to insure rigid support.

Next, fasten a single strip of molding along the surface edge of the long side of the drawing board which dips below the horizontal. This, of course, acts as retaining wall for pencils, papers, etc.

Finally, add a base of sufficient width and length to the upright to prevent the drawing board from toppling over when left free. Make the height of the stand conform to your height so as to attain a comfortable writing position. Sandpaper the stand and apply one or two coats of good paint.

Such a writing stand has a variety of uses in a school shop. Examples are:

1. When presenting a lesson plan, place the stand before the class and use it as a paper rest.

2. If you are the nervous type, while presenting a group lesson grasp both sides of the board as an old-fashioned preacher would.

3. During regular shopwork instruction, move the stand to a central location in the room. While standing before the writing stand you can check notebooks, take attendance, confer with students, etc.

If a shop teacher is using a writing stand which is placed so as to afford him an overall view of his shop, he cannot be accused of either sitting down during a shopwork session or of failing to keep his class under observation.

P. S. Don't say I told you, but it is possible to do the same things on a writing stand that can be done at a teacher's desk—except loaf, that is.

Questions and Answers

Q. What is the practice in regard to allowing students to take home shop projects after completion? (A.R.)

A. This depends on school or school system policy. In many schools projects may be taken home when completed, or following exhibit. Usually it is required that students in these cases replace all materials used in making the project.

Editor's Note. Questions are invited. Send them to John F. Nowak, P.O. Box 869, Church Street Station, New York 8, N.Y.

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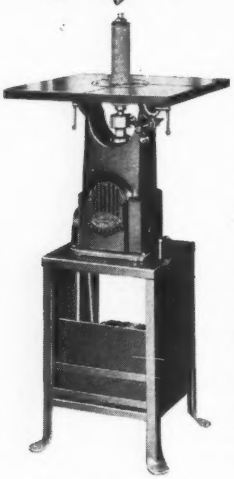

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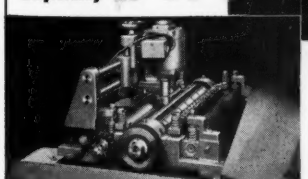

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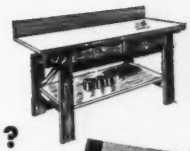

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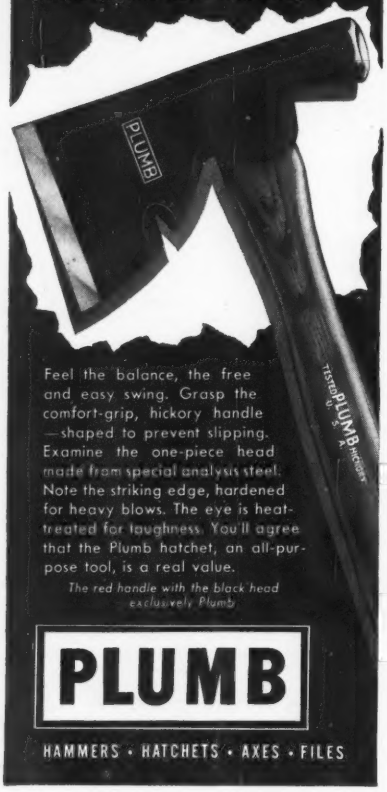

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Use Surplus Dynamotors and Save "B" Batteries

By Gerald F. Lanks

Here is a unique method for obtaining maximum use of war surplus electronic equipment by overcoming the problem of nonstandard voltages. Gerald F. Lanks teaches radio and electronics at the McKeesport, Pa., Vocational School.

THERE is a possibility that some of the WAA surplus property supplies in electronic equipment received by schools will lay around the shops unused because of a lack of suitable accessories or needed equipment to operate with the rather unstandardized voltages which most of them bear.

In my electronics shop it is necessary for me to use a number of the 45-volt "B" batteries which must be replaced often due to the rough handling they get traveling from bench to bench. I had a number of small surplus property dynamotors with a DC input of 28 volts and 1.1 amperes each, thus giving me an output of 250 volts DC at .06 amperes. These were exactly what I could use in lieu of the "B" batteries, but I had no 28 volts DC available to operate the dynamotors.

I was able to get a much heavier duty surplus dynamotor with an input of 28 volts DC at 10.5 amperes and high output voltages of 150 and 300. This dynamotor has an extended shaft which allowed me to put on it a 1" pulley. By connecting a ¼ hp, 110 volt AC motor through a belt and a 4" pulley, I was able to use it as a generator to give me 28 volts DC at 5 amperes. This DC power I wired to the several separate benches and used it to drive the smaller dynamotors, thus giving an output of 250 volts at about .06 amperes. None of the electronic jobs assigned to the students ever required more than 150 volts DC, so, by reducing the motor pulley to a 3" I had 150 volts from the dynamotor and was able to run six at a time. By this I was able to eliminate the "B" batteries and have at my disposal the equivalent to 18—45 volt batteries, with less bother and much easier handling, to say nothing of the savings on the cost of the "B" batteries.

The use of the generator was further extended by placing across the output a 2 mfd. 600 volt condenser which smoothed out the noise to allow the use of the Bc-1206-6, 200 to 400 megacycle receivers as well as to operate the Navy model RU 18 and RU 19 receivers. By using the 4" pulley to get my full 28 volts output from the generator I was able to operate the radio sets SCR-508, SCR-528, and the SCR-538 of which there yet seems to be a rather unusual surplus still available. There are also large numbers of the smaller dynamotors available from the surplus property source. These are quite reasonably priced.

Yet another advantage in using this hook-up is that these small dynamotors, when shunted with a 3000-5000 ohm, 50 watt rheostat to cut down the "B" voltage, do not heat up as they do across 140 volts of "B" battery supply.

For the benefit of schools in the market for such equipment, here are the types we use: the heavy duty generator is the 28 volt input D A-3; the smaller dynamotors of the 250 volt type is the model 5DY82AB1. If you are not interested in a number of separate DC sources at the several benches, this D A-3 also has taps available at 14.5-150 and 300 volts output with 5.0-.01 and .260 amperes respectively. There seems to be no limit as to the uses these generators can be put to.

Student studying the characteristics of a vacuum tube. Power for the test is supplied by a small dynamotor. Photograph by B. L. Chaplin, instructor in the McKeesport Vocational School photography department. Film and paper utilized was WAA surplus material.

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PARKS No. 20
20" PLANER

Here is a modernly designed, rugged, high-speed, low-priced planer that is ideally suited for every shop and industrial plant requiring a quality surfacer. The Parks No. 20 Planer has a four-knife cutterhead with a speed of 3600 R.P.M. and offers two feed speeds — 20 and 40 F.P.M., and 40 and 80 F.P.M. Write for complete descriptive literature.

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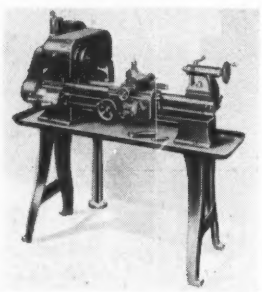
News from INDUSTRY

"PROTO"

Featuring the name "PROTO" in a newly designed trademark, the largest advertising campaign ever scheduled for tools and appearing in business papers and general consumer publications has been announced by M. B. Pendleton, President of the Plomb Tool Company, Los Angeles, California. The expression, "A Different Name for Your Old Friends" is being used to publicize the PROTO trademark, originally adopted early in 1948. *(See page 23.)*

New Logan 11" Swing Lathe

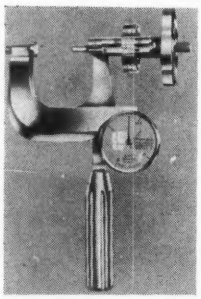


The Logan combination of increased capacity, improved construction, and attractively moderate price has created wide interest in the new Logan 11" lathes now in production.

With 1" collet capacity for draw-in collets and center distances of 24" and 36", the new Logan lathes have definitely greater capacity than previous models. Overall construction is considerably heavier. Yet the new 11" lathes incorporate all the advanced design features which have made Logan 9" and 10" lathes successful machines for industry, shops, and schools. Full quick-change gear equipment provides instant selection of 48 threads and feeds.

The new models are available in cabinet and bench types as well as the conventional floor model. In spite of these many advancements in design and heavy, precision construction, Logan production efficiency has made possible some prices which will appeal strongly to the economy-minded buyer. Full details and a new, illustrated folder may be obtained by writing to Logan Engineering Co., 4901 W. Lawrence Ave., Chicago 30, Ill.; *or check no. 56 on the coupon.*

Ames Portable Rockwell Hardness Tester



Heretofore, it has been sometimes financially impossible for many schools to teach hardness testing, owing to the expense involved in selecting the proper equipment.

Ames Precision Machine Works, manufacturers of precision bench lathes, shapers, and milling machines, recently released a portable hardness tester. Reading directly in Rockwell scales, it is much less expensive than ordinary testers, and has gained wide use in industry for making on-the-spot, accurate tests on round and flat stock, wire, tubing, gears, and odd-shaped pieces.

The Ames tester is small in size, weighs only 2½ pounds and is simple to use; thus it is ideally suited to classroom use and study. It is furnished complete with ball and diamond penetrators, anvils for testing flat and round stock, test blocks, Rockwell Conversion Chart, and complete instructions. A wooden carrying case is also furnished. For complete information, write Ames Precision Machine Works, Lexington St., Waltham 54, Mass.; *or check no. 57 on the coupon.*

Delco-Remy Summer School

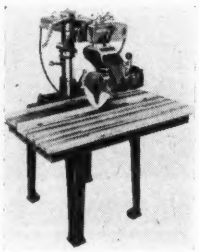
A summer training program for auto mechanics has been announced by the Delco-Remy Division, General Motors Corp., Anderson, Indiana. The Division is inviting both public high schools and trade schools to send their auto shop teachers for a two-week factory training course in the operation and maintenance of automotive electrical equipment. There is no tuition charge. The school will operate from June 6 through August 5. Those interested in participating should direct inquiries to Delco-Remy Division, General Motors Corp., Anderson, Ind., Att.: Service Dept.; or check *no. 58 on the coupon.*

The Penta-Kleen

Drafting teachers, particularly, will be interested in Eberhard Faber's new eraser, the Penta-Kleen, made of a new compound which minimizes crumbling and eliminates smears. Its unique design incorporates five flat sides which are excellent for cleaning broad surfaces. Then, too, its ten sharp corners and five knife-like edges are ideal for the most exacting erasures. Penta-Kleen won't slide, slip, or roll on tilted drawing boards. The actual size of the new eraser is larger than shown in the illustration—2¼" long. If not available yet at your local dealers, write Eberhard Faber Pencil Co., 37 Greenpoint Ave., Brooklyn 22, N.Y.; *or check no. 59 on the coupon.*

New Walker-Turner Radial Saw

A completely new machine, the "900" series radial saw, has just been put into production by the Walker-Turner Div., Kearney & Trecker Corp. Some of its many features which make cutting easier and faster on all wood, plastic, and similar materials are: new *Centr-Pivot* offset yoke permits all cuts to be made in the convenient table area; 3⅛" capacity with 9" blade; new geared motor has 2½ times overload capacity—extra cool running; 24" crosscut travel; rips to center of 48" panel; full work-visibility; rigid, clean-cut accuracy—holding design incorporates taper latch indexing and locks that are easy to reach and operate; big table of laminated hard maple, 46" x 24". Available in two models: RA901—1½ h.p., single phase; RA902—1½ h.p., three phase.



Literature with complete details and accessories list, with prices, is available on request from Walker-Turner Div., Kearney & Trecker Corp., Plainfield, N.J.; *or by checking no. 60 on the coupon.*

New Literature

Hickok Tube Testers. A new four-page folder describes and illustrates the latest complete line of dynamic mutual conductance tube testers. Covers counter, portable, and display models, listing technical and exclusive features. For free copy, write The Hickok Electrical Instrument Co., 10689 Dupont Ave., Cleveland 8, Ohio; *or check no. 61 on the coupon.*

Each item listed above is numbered. Check the numbers of the items you want, and mail the coupon, properly filled in, to . . .

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BAND SAWS, vertical, horizontal.
POWER HACK SAWS.
PORTABLE ELECTRIC DRILLS.
VISES, CHUCKS, DIVIDING HEADS.
INGERSOLL RAND PORTABLE ROTARY IMPACT TOOLS.
BENCH & FLOOR TILT ARBOR SAWS.
JOINTERS, JIG SAWS, BAND SAWS, RADIAL SAWS.
SANDERS, all types.
PLANERS, SHAPERS, VISES, wood-working.
MITRE BOXES, ELECTRIC MOTORS.
AIR COMPRESSORS, PAINT SPRAYS.
A. C. WELDING UNITS, ELECTRIC & CHAIN HOISTS.
SHEET METAL CRAFT EQUIPMENT.
PRESSES, arbor, hydraulic, etc.
DIESEL POWER GENERATING UNITS, 3½ H.P. and up.
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NEWS

What's Doing in the Field of INDUSTRIAL EDUCATION

Byrn Named Master Teacher

MEETING in Grand Rapids with the largest exhibit and one of the largest attendances in its history, the Michigan Industrial Education Society named Marshall L. Byrn, faculty member of the University of Michigan and Contributing Editor of SCHOOL SHOP, the "Master Teacher" of Michigan. Mr. Byrn is noted for his demonstrations of shop-teaching technics. Roland R. Fraser of Detroit was named president of the Michigan Industrial Education Society for the coming year.

New Jersey AVA

THE New Jersey section of the American Vocational Association met in combination with Nu chapter of Epsilon Pi Tau, honorary fraternity for industrial-education teachers, in Asbury Park, March 18. A preview of the 1949 AVA national convention in Atlantic City, December 5 to 10, was given by John A. McCarthy, Assistant State Commissioner of Education. George W. Morgenroth, assistant director of the Essex County vocational schools, was named president of the section for 1949-50.

Deep South Chapter

AN installation ceremony for the first Deep South chapter of Epsilon Pi Tau was held recently at the School of Vocational Education of Louisiana State University, Baton Rouge. R. E. Stucki, instructor in the College, was named first faculty trustee.

Regional Conference

SAN LUIS OBISPO, Calif., will be the scene of the second Pacific Regional Conference on Printing Education on June 11. The conference, on the campus of California State Polytechnic College, will feature addresses by prominent graphic-arts educators, discussions of printing education, and a noonday barbecue.

Connecticut Events

Two events of significance to Connecticut industrial-arts educators were held this Spring at New Britain, home of the Teachers College of Connecticut. The annual spring conference of the Connecticut Industrial Arts Association convened on April 8 and 9. Theme of the conference was "Guidance Through Industrial Arts." A chapter of Epsilon Pi Tau was activated at the College on May 21.

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The first tool of this kind—today's finest! Smooth, steady power at your fingertips! A tool that's easy for students to handle, responsive to every direction. Turns out professional looking projects for pleasure or profit—ship, plane, train models, costume jewelry, wood carvings, initialed glassware and leather goods. Handee works on metals, alloys, plastics, wood, glass, etc. AC or DC. 25,000 r.p.m. Weight 12 ounces.

SCHOOL SET with Handee and 40 accessories in sturdy, wood carrying case $27.50. Handee with 7 accessories (no case) $20.50. Get at stores or sent postpaid. Satisfaction Guaranteed. CHICAGO WHEEL & MFG. CO., 1101 Monroe St., Dept. SH, Chicago 7, Ill. FREE 52-page Manual.

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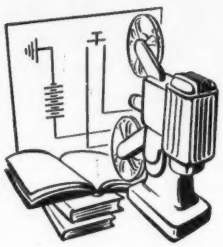

Books:

Mathematics at Work. Horton. New York: The Industrial Press, 1949. Pp. x+728. $6.00.

Prompted by inquiries received by the staffs of *Machinery* and *Machinery's Handbook* concerning mathematics, the publishers of those well-known stand-bys in machine-shop practice decided to compile a set of typical problems and explanations likely to be encountered in the shop. The result is a valuable compendium of mathematical problems, formulae, tables, graphs, etc.

Photofact Television Course. French (Editor). Indianapolis, Ind.: Howard W. Sams and Co., Inc., 1949. Pp. 215. $3.00.

In this course-book for students and technicians, the editors have made the cathode-ray tube the point of departure. They reason that as the receiver sound was the usual spot for technicians of AM and FM to look for trouble, so must the vision tube be the logical place in television servicing. The book follows a logical course of development from the introduction of the cathode-ray tube to beam modulation and synchronization.

B. V. K. French is a senior member of the Institute of Radio Engineers.

Let's Whittle. Pynn. Peoria, Ill.: Manual Arts Press, 1948. Pp. 128. $2.50.

This is a book for the whittler-hobbyist or anyone who wishes to become one. Drawings and suggestions for a variety of subjects are given. Leroy Pynn, Jr., is a commercial artist.

Introductory Radio: Theory and Servicing. Hicks. New York: McGraw-Hill Book Co., Inc., 1949. Pp. viii+393. $3.20.

Designed to meet the needs of both the small and large high-school radio shop, this text anticipates the eagerness of beginning students by initiating shop practice with the first session. Theory, which is stimulated by the first week's unanswered questions, comes later. There are many suggestions for getting by with limited funds by building equipment in the shop. Also, salvaged materials are called for in many of the projects, thus avoiding great expense. There are problems and discussion topics at chapter ends.

H. J. Hicks is a radio and science instructor, Central High School, St. Louis, Mo.

Klenke's Furniture Book. Klenke. Peoria, Ill.: Manual Arts Press, 1949. Pp. 172. $3.25.

This new book contains both instruction on furniture making and project material for the beginning or finished craftsman. Chapters one to four take up instructions, machinery, assembling and finishing, and upholstering. The fifth supplies suitable projects, traditional and modern.

William W. Klenke is an instructor in the Commercial and Technical High School, Newark, N.J., and is a licensed New Jersey architect.

The Slide Rule—How to Use It. Strohm and DeGroot. Scranton, Pa.: International Textbook Co., 1948. Pp. vii+95. $1.50.

A book on how to use to best advantage the time-saving device which is essential in solving advanced mathematical problems and in many varieties of engineering technics. General procedures for problem-solving are outlined and supplemented by step-by-step explanation.

Rufus T. Strohm is a vice-president of the International Textbook Company and Archibald DeGroot is a civil engineer.

Hand Made Jewelry—A Manual of Techniques. Wiener. New York: D. Van Nostrand Co., Inc., 1948. Pp. x+210. $2.20.

Jewelry-making technics are reviewed in this work in such a manner as to give the novice a grasp of the two major categories of the craft: (1) enrichment of a metallic surface, and (2) manipulation of its form or contour. Beginning craftsmen will be able to utilize the book in order to understand and to plan the production of numerous objects of art in metal. The appendix includes tables of weights and measures and suggestions for shop layout and equipment.

Louis Wiener teaches in the Department of Vocational Education, School of Education, New York University, and in the industrial-arts department at Ft. Hamilton High School, New York City.

Machining of Metal. Smith. Bloomington, Ill.: McKnight and McKnight, 1949 (revised edition). Pp. 224. $3.50.

This revised edition brings up to date information on machines used in working with metal. Correct operation with safety is stressed throughout. Projects and tables are included.

Robert E. Smith is Professor of Education, Ohio State University, Columbus.

Electricians' Pocket Companion. Goldberg. New York: Murray Hill Books, Inc., 1948. Pp xvii + 441. $2.50.

This is a book designed to "give in concise, simple language the essential facts and information required by the practical man for doing his job." It is valuable for others—workers or learners—interested in the field of electricity. There are many diagrams and tables, and the textual material is well cross indexed.

Benjamin Goldberg was formerly an electrical inspector in New York City.

Pamphlets:

Printing Primer is a paperbound manual for use in colleges or high schools in courses in printing or publishing. It is designed for use with the textbook, *Newspaper Typography*, but may be used separately. There are many drawings of equipment and processes in printing. Published by the Stanford University Press, Palo Alto, Calif., it was written by Hartley E. Jackson of San Jose, Calif., State College.

Occupational Outlook Handbook is Bulletin No. 940 of the Bureau of Labor, U. S. Department of Labor, and was published in cooperation with the Veterans Administration. It contains complete reports on the prospects for employment and life work in 288 occupations by which Americans earn their daily living. The booklet indicates that many of the preferred lines of endeavor—airplane pilot, diesel mechanic, radio announcer, personnel worker, etc.—may be difficult to obtain, but it also indicates that many other occupations have promising job outlooks. Among these are automobile mechanic, foundry worker, and a variety of other skilled and semiskilled occupations. The *Handbook* may be purchased at $1.75 from the Superintendent of Documents, Washington 25, D.C.

A Primer of Life Adjustment Education is a booklet which is designed to meet the demand for additional information on the program of the Commission on Life Adjustment Education. It is written by J. Dan Hull, assistant director, division of secondary education, U. S. Office of Education, who is also Secretary of the Commission. It discusses the problems involved in providing more satisfactory and enriching experiences in the schools for all youth—the college-bound, the vocationally-inclined, and those who are drifting. Suggestions for setting up life-adjustment programs are included. There is a bibliography. Distribution and printing is by the American Technical Society, which is returning all funds above actual costs to the Commission for its work. Price, to schools and other institutions, is $.36 per copy for orders of less than 25; $.32 for more than 25. Order through American Technical Society, Drexel Ave. at 58th St., Chicago 37, Ill.

Visuals:

Charts on Chemistry and History of Aluminum are composed of photographs, drawings, and descriptive material on aluminum. Suitable for science, industrial-arts, and vocational classes in senior high schools. Charts are 17⅞" x 27½". May be secured by writing to Aluminum Company of America, 801 Gulf Bldg., Pittsburgh 19, Pa. Preferences will be given to teachers who make requests on school letterheads. Please mention SCHOOL SHOP and specify number desired.

U.S. Government Films for School and Industry is the 1949 catalog containing descriptions of 1964 motion pictures and filmstrips of the federal government. The contractual distributor of U.S. Office of Education films, Castle Films, published the catalog which may be obtained without charge from the U.S. Office of Education, Washington 25, D.C., or from Castle Films, 1445 Park Avenue, New York 29, New York.

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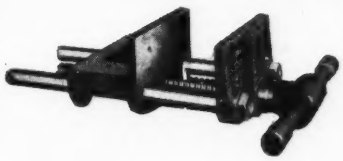

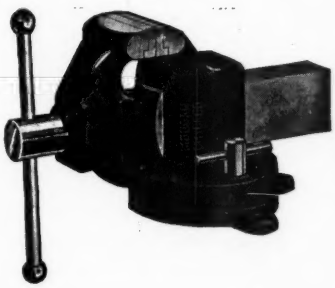

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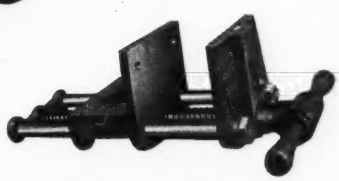

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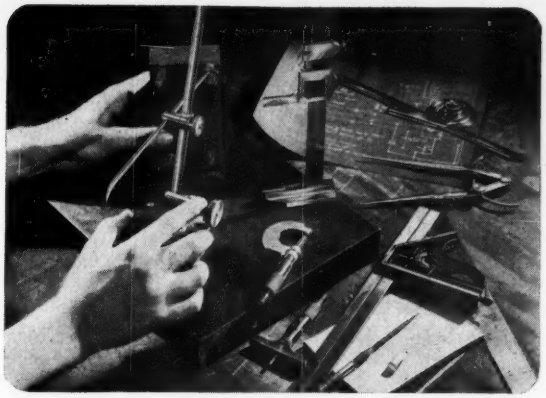

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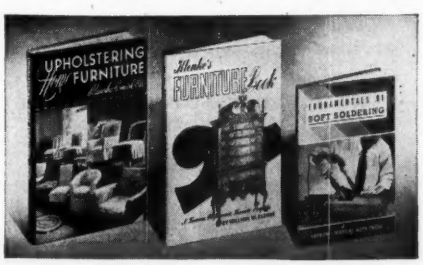

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Wall Shelf Project with Drawer Feature. Arthur F. Schuster. Mar., 24.

Washington . . *from page 24*

tory medical centers, and on the highway driving their own automobiles. This last is for the benefit of European labor leaders and workers, since the U. S. State Department will send overseas thousands of copies of *The Gift of Freedom* to counteract the unkind words some Europeans are spreading about the United States.

Vocational Funds to the Virgin Islands. —Uncle Sam's ward, the Virgin Islands, can use vocational training to as good advantage as do his nieces and nephews on the Continent. So says the Department of the Interior. In a letter to Congress, Secretary Krug urged that the Virgin Island schools "be extended the benefits of the George-Barden Act."

"Vocational training programs are excellently suited to the needs and circumstances of the Virgin Islands. But to date no permanent provision has been made along such lines in the Islands. There is no valid reason why a national policy of training men and women to assume their rightful places in American society should neglect this small corner of the country," said Mr. Krug.

The Senate saw the wisdom of Krug's plea and on April 11 passed the bill extending vocational education to the Virgin Islands. It authorizes $40,000 a year.

What will the Islands do with their program? St. Thomas, capital of the Islands, is practically without industry. St. Croix produces sugar and distills rum. Vocational training will hardly be of help there. But Interior Department officials say that the Islands need skilled young men and women who can man the exisiting utilities, sanitation, and other public services the Islands possess. Skilled hands are needed also for the growing building activity, light assembly works being established, and handicraft shops catering to tourists. And vocational training will be of help to those young men who leave the Islands to seek their fortune in the United States. If they bring with them some semblance of shop and industrial training, so the claim goes, they would be better equipped to find work when they arrive on the mainland.

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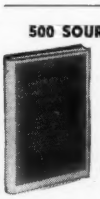

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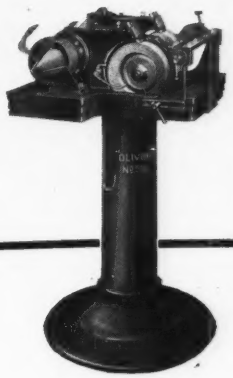

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WHILE you are on vacation, these decisions will be made:

1. Schoolmen will decide whether to set up a national watch-dog committee to protect the interests of public vocational schools as they deal with the Veterans Administration. Such a group is apparently needed in view of the highhanded manner in which the Veterans Administration has treated public vocational schools. Remember "Change Nine!"

A meeting scheduled in Washington this month will weigh the pros and cons for such a national group. Robert Owens, Cleveland school official, who has been battling the VA for many a week, will probably preside at the meeting. Should the watch-dog committee be set up, it will include members from nine or ten major national organizations. It will become the voice of public vocational schools, speaking to the Administrator of Veterans Affairs. It will insist that the VA consult with its members when important policies or changes in policies are contemplated.

2. Congress will decide whether to appropriate $19,842,760 or $29,300,000 for vocational education. These two figures are becoming classic elements in the yearly tug-of-war between Congress and educators. As last year and the year before, the House voted $19,842,760 for George-Barden programs. The Senate Appropriations Committee, after hearing pleas from schoolmen, raised the amount to $29,300,000. Hopes for getting the higher amount are slim. In a sudden revolt against Truman money bills, the Senate sent the Federal Security appropriations bills back to committee with orders to cut at least 5 percent from the total amount. The George-Barden item looks vulnerable. June may turn into July before Congress decides the sum which vocational schools will have for 1950.

3. Congress will decide whether donations of surplus property to schools are to continue or be slowly chloroformed. Behind this issue lies the fact that although Congress passed a law authorizing the military to donate surplus materials to schools (P. L. 889), it never approved any funds for carrying out its provisions. Ever since last July, the Office of Education surplus property staff, headed by Dr. A. L. Harris, has been paid through "courtesy of the Bureau of the Budget." In other words, the Bureau merely told the Office of Education that it is OK to pay the staff during 1949 until Congress puts up the money through a deficiency appropriation. This deficiency fund is expected to be approved by the end of June.

But what about 1950? The Office of Education asked for $100,000 for the surplus property staff. The House turned down the request. The entire surplus property staff was in danger of being fired when the Senate Appropriations Committee came to the rescue with a proposed $75,600 allotment. But that Senate order to trim the 1950 Federal Security appropriations by 5 percent may hurt this item also.

Government Looks at Industry.—To get new insight into what has been happening in the world of industry, school shopmen would do well to leaf through three new publications prepared with taxpayers' money:

First is the amazing *Occupational Outlook Handbook* (U. S. Labor Department, $1.75), with its reports on 288 occupations. Here are the latest facts on the work and pay of the tool designer, radio operator, optical mechanic, watch repairman, forge shop worker, foundryman, radar technician, and scores of other skilled workers. Facts have come directly from industry and labor unions. For each of the occupations, the Handbook describes the nature of the job, the industries and places where the job is widespread, training and qualifications needed, and what a worker would earn on the job if employed as of the middle of 1948.

So heavy has been the demand for this volume, that you may have to wait a month or so until the Government Printing Office fills your order.

Second is a new and simplified two-volume edition of the famous *Dictionary of Occupational Titles* (U. S. Employment Service). This 10-year-old government publication has already helped America fight through a depression and a war. By listing and defining the 40,000 different types of jobs common to American industry, it has helped job seekers, placement officers, the armed services, employment offices, industries, and the entire economy.

The new edition includes titles of jobs in newer industries such as plastics manufacturing, electrical and radio equipment, paper and pulp, and the plywoods.

Third is the new brochure entitled *The Gift of Freedom* (U. S. Bureau of Labor Statistics, 55c). This is an industrial and economics textbook with a new slant. It compares the condition of American workers with that of workers in other lands. Its moral is obvious: it is better to work under the American system.

At the same time, the book gives a simple, authentic picture of working conditions in the United States, purchasing power of an hour's work, our labor movement and trade unions, and tells how American industry supports the high standards of living for 60,000,000 workers. A 20-page photographic section shows typical workers at home, on the job, in labor union centers, in fac-

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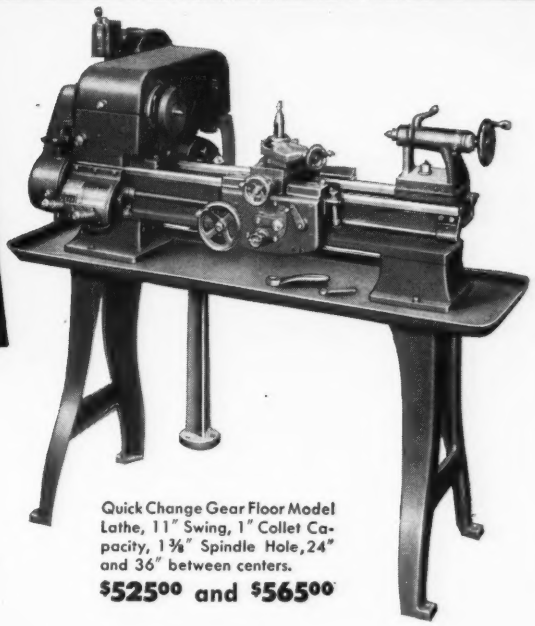

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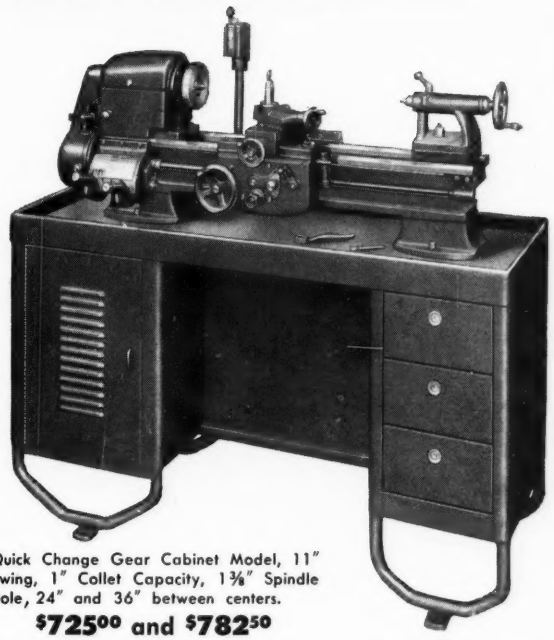

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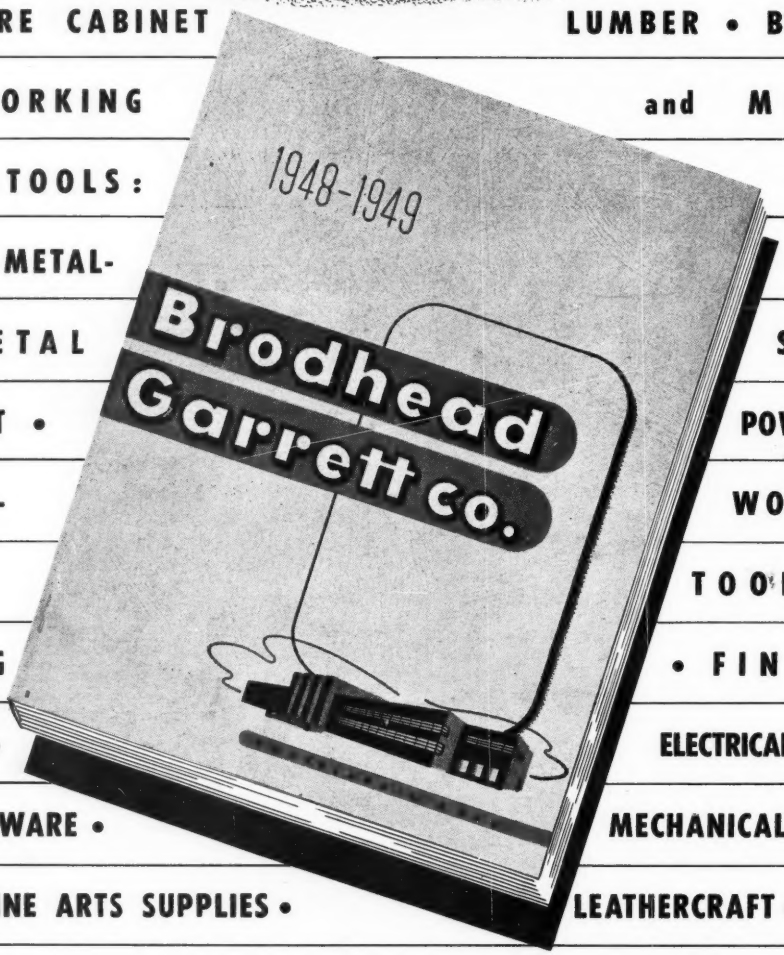

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